
An analogy for an array telescope is a stereo system. Each speaker is not a stereo system in itself but all the components make up one system. Each part is considered a component with a specific name and purpose. The use of the term “stereo” to refer to a speaker, receiver, tape deck, etc. is inappropriate. In the same way, the use of the term “telescope” for components is inappropriate.

The approach taken by the Master Plan is to describe the actual components of proposed astronomy development. This approach provides for full disclosure to the extent possible when viewing the future of astronomy facilities atop Mauna Kea, and is consistent with the Auditor’s recommendation to get away from the simplistic counting of “telescopes”.

Astronomy Precinct - Anticipated Program for Astronomy Development. The projected expansion of astronomy research facilities at Mauna Kea is specified in the Institute for Astronomy’s Research Development Program (2000-2020), which is included in Appendix A. The anticipated program for astronomy development envisions five different categories of facility development projects (Types I-V), as listed below.

Type I. Redevelopment of Existing Observatory Sites on the Summit Ridge:

Redevelopment or “recycling” of up to five existing telescopes, including NASA/IRTF, CFHT, UH 2.2 m, UKIRT, and UH 0.6 m. It is anticipated that up to three or four facilities may be redeveloped over the next 20 years.

Type II. Expansion of Existing Observatories:

Expansion of the Keck Observatory with the addition of four to six 1.8-m. outrigger telescopes. Four are being proposed to start development in 2001. The Submillimeter Array may add up to 12 new antennas and 24 new pads over the next 20 years.

Type III. New Conventional Optical/IR Telescope

A new conventional telescope comparable to the Keck or Gemini Observatories at a currently undeveloped site. An instructional telescope for UH-Hilo is also projected.

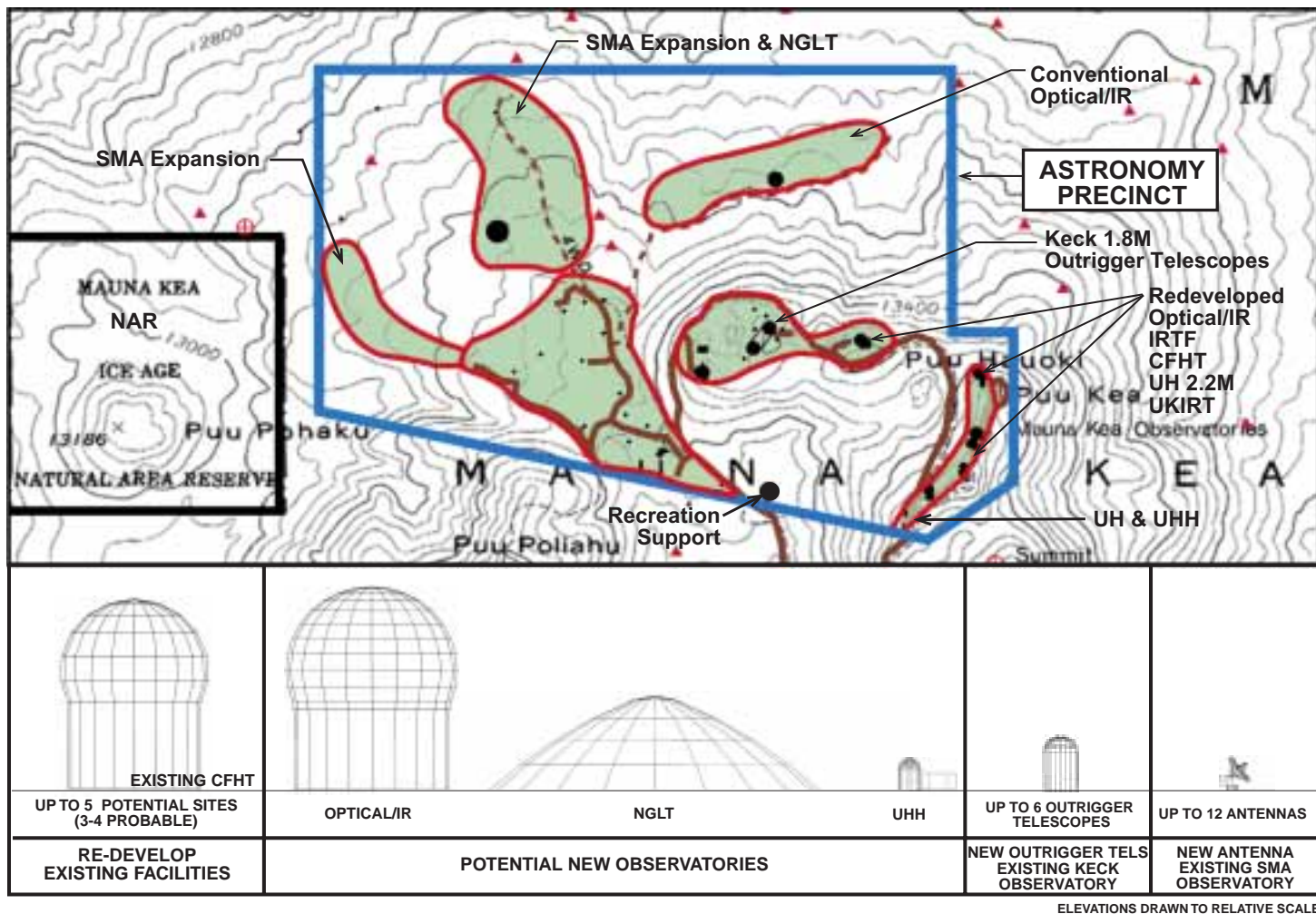
Type IV. Next Generation Large Telescope (NGLT)

A single optical/IR telescope of 25 m. aperture or greater. This is currently only being discussed in the astronomy community and there is a 50 percent possibility that this facility may be developed in the next 20 years.

Type V. Optical/IR Interferometer Array Site

A general area is proposed for this observatory. No facilities are included in this Plan. Facilities must undergo the major Master Plan amendment process for approval.

Given the prescribed criteria for site selection, and UH’s anticipated program for astronomy development in the next 20 years, specific sites or areas within the Astronomy Precinct have been identified. A summary of all proposed research facilities development in the Astronomy Precinct is presented in Figure IX-16. An expanded discussion of each of the proposed facility type and locations is presented below.



Physical Plan and Proposed Astronomy Facilities